

DATA ANALYSIS FOR: **SHENZHEN URBAN HOUSING SURVEYS,** **CHINA**

90 Household Surveys of three typologies – 2013-15

Document drafted June 2016

Ali Cheshmehzangi, The University of Nottingham Ningbo China

As part of ELITH Project – Energy and Low-Income Tropical Housing



UNITED KINGDOM • CHINA • MALAYSIA

NOTE: To use any of the collated data here, please contact the researchers who were involved in this data collection. Permission is required for any sort of use of this data.

China contact: Ali.Cheshmehzangi@nottingham.edu.cn

Typology One: Low-income Urban Housing (30 households)

Demographic Characteristics

								Demographic characteristics of the subject households				
	Gender	Age	Education	Job	Homeownership	Family structure	INCOME					
H1	Female	66	primary	Unemployed	rented	4						
H2	Female	66	primary	Unemployed	owned	4						
H3	Female	72	primary	Retired	rented	3						
H4	Female	58	primary	Freelance	rented	5						
H5	Female	50	primary	Freelance	rented	4						
H6	Female	62	primary	Freelance	owned	3						
H7	Female	73	primary	Retired	rented	3						
H8	Female	70	primary	Retired	rented	4						
H9	male	68	primary	Retired	rented	4						
H10	male	59	seondary	Unemployed	rented	2						
H11	Female	55	primary	Unemployed	rented	4						
H12	Female	51	seondary	Unemployed	owned	5						
H13	male	48	seondary	technical	rented	2						
H14	male	46	seondary	Freelance	rented	2						
H15	male	66	seondary	Freelance	owned	2						
H16	Female	67	primary	Unemployed	rented	4						
H17	Female	65	primary	Unemployed	rented	4						
H18	Female	65	primary	Unemployed	rented	4						
H19	Female	50	seondary	Unemployed	rented	3						
H20	male	60	seondary	Unemployed	rented	5						
H21	Female	37	seondary	Unemployed	rented	4						
H22	Female	42	seondary	Freelance	owned	4						
H23	male	48	seondary	Freelance	owned	5						
H24	Female	58	seondary	Freelance	rented	4						
H25	Female	69	primary	Unemployed	rented	1						
H26	Female	67	primary	Unemployed	owned	2						
H27	Female	37	seondary	technical	owned	4						
H28	Female	55	seondary	Unemployed	owned	5						
H29	Female	65	primary	Unemployed	rented	4						
H30	Female	72	primary	Retired	rented	6						
									Age	Range	Number	Number (%)
										less 50 (37-48)	6	20%
										50-55	5	17%
										56-65	8	27%
										66-75	11	37%
										76-95	0	0%
									Gender	Female	23	77%
										Male	7	23%
										Less 3000 RMB	14	47%
										Between 4000-5000 RMB	6	20%
										Between 5000-7000 RMB	2	7%
										More than 10000 RMB	0	0%
										N/A	8	27%
									Ownership	Owned	9	30%
										Rented	21	70%
									Education level	Primary or less	17	57%
										Secondary	13	43%
									Profession	Freelance	8	27%
										Professional	0	0%
										techincal work	2	7%
										Retired	5	17%
										Unemployed	15	50%
									Family Structure	1 Members	1	3%
										2 Members	5	17%
										3 Members	4	13%
										4 Members	14	47%
										5 Members	5	17%
										6 Members	1	3%

Dweller Physical Properties

Dweller Physical Properties							
No	Size(m2)	Orientation	Type	Age	Bedrooms	Bedroom	Living room
H1	60	S-N	Apartment		2	10-	15
H2	66	S-N	Apartment		2	10~20	15~20
H3	66	S-N	Apartment		2	10~20	15~20
H4	45	S-N	Apartment		1	10~15	15
H5	45	S-N	Apartment		1	10~15	15
H6	60	S-N	Apartment		2	10~20	15~20
H7	66	S-N	Apartment		2	10~20	15~20
H8	66	S-N	Apartment		2	10~20	15~20
H9	66	S-N	Apartment		2	10~20	15~20
H10	54	S-N	Apartment		2	10~20	15~20
H11	66	S-N	Apartment		2	10~20	15~20
H12	88	S-N	Apartment		3	20~30	20~30
H13	66	S-N	Apartment		2	10~20	15~20
H14	74	S-N	Apartment		2	10~20	15~20
H15	94	S-N	Apartment		4	20~30	20~30
H16	74	S-N	Apartment		3	10~20	15~20
H17	74	S-N	Apartment		3	10~20	15~20
H18	60	S-N	Apartment		2	10~20	15~20
H19	60	S-N	Apartment		2	10~20	15~20
H20	74	S-N	Apartment		3	10~20	15~20
H21	66	S-N	Apartment		2	10~20	15~20
H22	88	S-N	Apartment		3	20~30	20~30
H23	94	S-N	Apartment		4	20~30	20~30
H24	45	S-N	Apartment		1	10~20	15~20
H25	45	S-N	Apartment		1	10~20	15~20
H26	60	S-N	Apartment		2	10~20	15~20
H27	60	S-N	Apartment		2	10~20	15~20
H28	74	S-N	Apartment		2	10~20	15~20
H29	74	S-N	Apartment		2	10~20	15~20
H30	60	S-N	Apartment		2	10~20	15~20

Building Physical Properties			
	Range	Number	Number (%)
Building Age	1980s	30	100%
Building Height (5 stories Bld)	1-3 stories	0	0%
	4-8 stories	30	100%
Building Orientation	S-N	30	100%
Building Layout	Apartment	30	100%
Deweller Size	45-55 m ²	5	17%
	55-65 m ²	7	23%
	65-75 m ²	14	47%
	75-85 m ²	0	0%
	85-95 m ²	4	13%
	95-105m ²	0	0%
	105 +	0	0%
Dweller room number	1	4	13%
	2	19	63%
	3	5	17%
	4	2	7%
Building Material	Steel-concrete	30	100%
Window layout	Single glazed metal frame	30	100%

Household Appliances

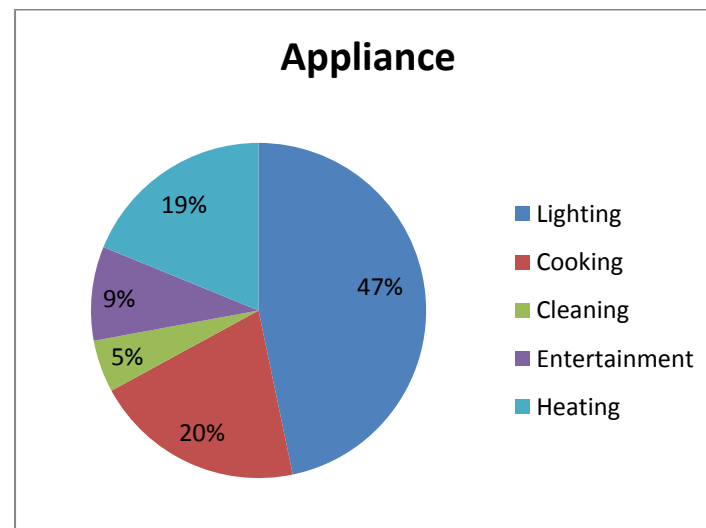
		Household Appliance																															
		H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	H15	H16	H17	H18	H19	H20	H21	H22	H23	H24	H25	H26	H27	H28	H29	H30		
Function	Appliance																																
Lightning	AP1			1	2	2		2			1				1							1	1				3				1	2	278
	AP2									1			1																				
	AP3	7	8	7	6	6	11	7	7	8	6	9	12	10	11	11	10	8	8	9	8	8	12	12	10	8	7	7	7	11	8		
	AP4																																
	Other																																
	Total																																
Cooking	AP5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	121	
	AP6															1							1	1									
	AP7												1			1							1										
	AP8											1	1			1				1	1	1	1	1					1	1			
	AP9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1		
	AP10								1	1				1	1		1	1	1	1	1	1		1	1				1				
	AP11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	Other													1															1				
	Total																																
Cleaning	AP12												1			1				1		1	1	1					1			30	
	AP13		1	1			1	1	1	1			1	1	1	1	1	1	1	1	1	1	1	1			1	1	1	1			
	AP14																							1									
	Total																																
Entertainment	PC												1			1							1	1								54	
	AP16						1		1				1		1	1								1	1				1	1			
	TV	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1		
	AP18					1			1								1							1									
	AP19													1		2									1								
	Other																																
	Total																																
Heating	AP20	2	2	2	1	1	1	2	1	1	1	2	2	1	1	3	2	2	1	2	2	2	2	2			2	2	2	2	2	112	
	AP21																																
	AP22	1	1	1	2	2	2	1	1	1	2	2	2	2	1	1	2	2	2	2	1	1	2	2	1	2	1	1	2	1	1		
	AP23		1											1										1	1						1		
	AP24																																
	AP25						1	1	1					1		1	1	1	1				1	1	1	1				1	1		
	Total																																

Appliance in the house

AP1	Traditional incandescent bulbs		AP13	Electric/Gas water heater
AP2	Compact fluorescent		AP14	others

	lamps								
AP3	Fluorescent/Energy saving lamps				AP15	Desktop computer			
AP4	Halogen lamps				AP16	Laptop computer			
AP5	Rice cooker				AP17	Cathode ray tube television			
AP6	Water dispenser				AP18	LCD			
AP7	Induction cooker				AP19	Plasma			
AP8	Microwave				AP20	A/C			
AP9	Range hood				AP21	Electric Blanket			
AP10	Electric kettle				AP22	Electric Fan			
AP11	Refrigerator				AP23	Electric Heater			
AP12	Washing machine				AP24	Floor Heating			
					Ap25	Bathroom Heat Lamp			

Appliance	Number
Lighting	278
Cooking	121
Cleaning	30
Entertainment	54
Heating	112



Energy Consumption

N/A

Thermal Comfort Perception

Indoor Comfort												
	Winter						Summer					
	IC 1	IC 2	IC 3	IC 4	IC 5	IC 6	IC 1	IC 2	IC 3	IC 4	IC 5	
H1												
H2												
H3												
H4												
H5												
H6												
H7												
H8												
H9												
H10												
H11												
H12												
H13												
H14												
H15												
H16												
H17												
H18												
H19												
H20												
H21												
H22												
H23												
H24												
H25												
H26												
H27												
H28												
H29												
H30												
												Total

Occupants' satisfaction					
Very Good (5)	Good (4)	Fair (3)	Poor (2)	Very bad (1)	
		3			
		3			
		3			
	4				
			2		
			2		
			2		
		3			
			2		
			2		
	4				
		3			
		3			
		3			
			2		
	4				
				1	
				1	
		3			
				1	
		3			
		3			
	4				
				1	
		3			
		3			
				1	
Total	0	4	14	6	6
		13%	47%	20%	20%

IC 1	A/C
IC 2	Electric Fan
IC 3	Electric Heater
IC 4	Floor Heating
IC 5	Natural Ventilation
IC 6	Others -wearing

Typology Two: Low to Mid-income Urban Housing (30 households)

Demographic Characteristics

Demographic characteristics of the subject households							
	Gender	Age	Education	Job	Homeownership	Family structure	INCOME
H1	Female	56	primary	Freelance	owned	3	
H2	Female	60	primary	Unemployed	owned	5	
H3	Female	50	secondary	technical	owned	4	
H4	Female	48	primary	technical	owned	3	
H5	Female	66	primary	Unemployed	rented	3	
H6	Female	72	primary	Retired	rented	3	
H7	Female	68	primary	Retired	owned	3	
H8	Female	38	secondary	Freelance	owned	4	
H9	Female	52	secondary	technical	rented	2	
H10	male	77	primary	Retired	rented	1	
H11	Female	62	primary	Unemployed	rented	4	
H12	Female	66	primary	Unemployed	rented	4	
H13	Female	48	secondary	Unemployed	owned	4	
H14	Female	69	primary	Retired	rented	3	
H15	Female	55	secondary	Unemployed	rented	4	
H16	Female	70	primary	Retired	rented	2	
H17	Female	66	primary	Unemployed	rented	2	
H18	male	55	secondary	Freelance	rented	4	
H19	male	70	primary	Retired	rented	4	
H20	Female	40	secondary	Unemployed	rented	4	
H21	male	64	primary	professional	owned	3	
H22	Female	68	primary	Retired	owned	3	
H23	Female	51	primary	professional	owned	4	
H24	male	65	primary	technical	rented	4	
H25	Female	65	primary	Unemployed	rented	2	
H26	Female	45	primary	Freelance	rented	4	
H27	male	69	primary	Freelance	rented	1	
H28	Female	63	primary	Unemployed	rented	1	
H29	Female	71	primary	Retired	owned	4	
H30	Female	74	primary	Retired	owned	3	

	Range	Number	Number (%)
Age	less 50 (38-48)	5	17%
	50-55	5	17%
	56-65	7	23%
	66-75	12	40%
	76-95	1	3%
Gender	Female	24	80%
	Male	6	20%
Income	Less 3000 RMB	4	13%
	Between 4000-5000 RMB	7	23%
	Between 5000-7000 RMB	8	27%
	More than 10000 RMB	2	7%
	N/A	9	30%
Ownership	Owned	12	40%
	Rented	18	60%
Education level	Primary or less	23	77%
	Secondary	7	23%
Profession	Freelance	5	17%
	Professional	2	7%
	technical work	4	13%
	Retired	9	30%
	Unemployed	10	33%
Family Structure	1 Members	3	10%
	2 Members	4	13%
	3 Members	9	30%
	4 Members	13	43%
	5 Members	1	3%
	6 Members	0	0%

Dweller Physical Properties

Dweller Physical Properties											
No	Size(m2)	Orientation	Type	Age	Bedrooms	Bedroom	Living room	Building Physical Properties			
								Range	Number	Number (%)	
H1	60	S-N	Apartment		2	10~20	15~20	Building Age	1990s	30	100%
H2	94	S-N	Apartment		4	20~30	20~30				
H3	88	S-N	Apartment		3	20~30	20~30	Building Height (5 stories Bld)	1-3 stories	0	0%
H4	74	S-N	Apartment		2	10~20	15~20				
H5	74	S-N	Apartment		2	10~20	15~20		4-8 stories	30	100%
H6	74	S-N	Apartment		2	10~20	15~20				
H7	60	S-N	Apartment		2	10~20	15~20	Building Orientation	S-N	30	100%
H8	66	S-N	Apartment		2	10~20	15~20				
H9	54	S-N	Apartment		2	10~15	15	Building Layout	Apartment	30	100%
H10	45	S-N	Apartment		1	10~15	15				
H11	66	S-N	Apartment		2	10~20	15~20	Dweller Size	45-55 m ²	7	23%
H12	66	S-N	Apartment		2	10~20	15~20				
H13	74	S-N	Apartment		3	10~20	15~20		55-65 m ²	5	17%
H14	74	S-N	Apartment		3	10~20	15~20				
H15	60	S-N	Apartment		2	10~20	15~20		65-75 m ²	12	40%
H16	54	S-N	Apartment		2	10~15	15				
H17	54	S-N	Apartment		2	10~15	15		75-85 m ²	4	13%
H18	74	S-N	Apartment		3	10~20	15~20				
H19	66	S-N	Apartment		3	10~20	15~20		85-95 m ²	2	7%
H20	80	S-N	Apartment		3	10~20	15~20				
H21	80	S-N	Apartment		3	10~20	15~20		95-105m ²	0	0%
H22	80	S-N	Apartment		3	10~20	15~20				
H23	72	S-N	Apartment		3	10~20	15~20		105 +	0	0%
H24	60	S-N	Apartment		2	10~20	15~20				
H25	45	S-N	Apartment		1	10~15	15	Dweller room number	1	4	13%
H26	60	S-N	Apartment		2	10~20	15~20				
H27	45	S-N	Apartment		1	10~20	15~20		2	14	47%
H28	54	S-N	Apartment		1	10~15	15				
H29	77	S-N	Apartment		3	10~20	15~20		3	11	37%
H30	66	S-N	Apartment		3	10~20	15~20				
								Building Material	Steel-concrete	30	100%
								Window layout	Single glazed metal frame	30	100%

Household Appliances

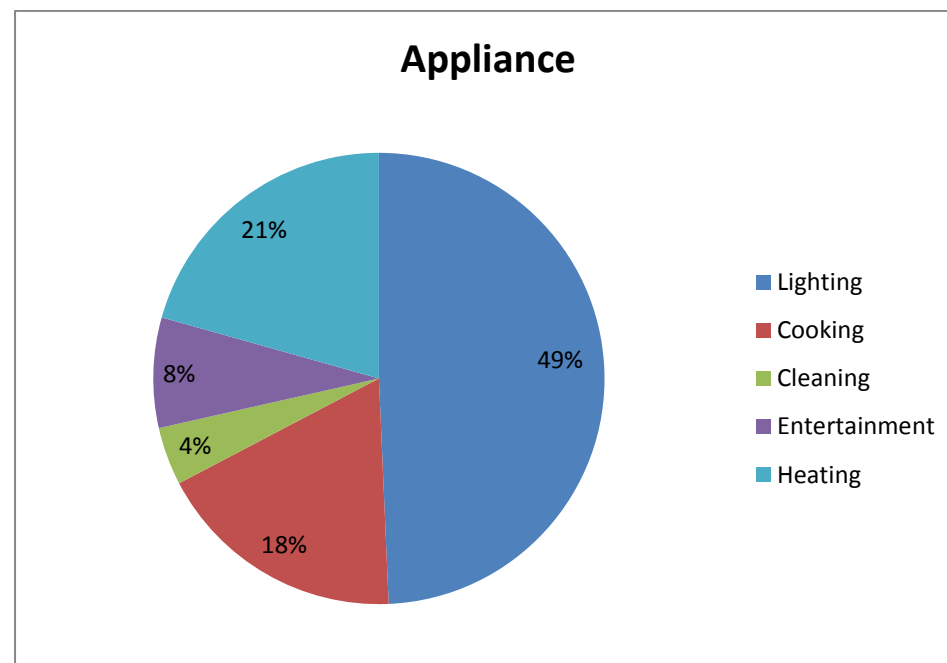
		Household Appliance																														
		H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	H15	H16	H17	H18	H19	H20	H21	H22	H23	H24	H25	H26	H27	H28	H29	H30	
Function	Appliance																															
Lightning	AP1							1		2	2			1	1					2					1	1			2			
	AP2			1		1	1			1				1				1	1	1		2	1		1	1			1			
	AP3	11	14	12	11	11	12	12	12	9	8	12	11	10	11	12	11	11	11	11	10	11	10	11	11	10	9	9	12	9	14	12
	AP4																															
	Other																															
	Total																															
Cooking	AP5	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	1
	AP6		1																			1									1	
	AP7		1																			1	1									
	AP8	1	1	1	1				1				1	1							1	1	1	1				1			1	1
	AP9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	AP10		1	1		1		1								1	1		1	1	1		1	1	1	1		1			1	
	AP11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Other															1																1
	Total																															
Cleaning	AP12		1	1				1							1				1	1		1	1		1		1			1		
	AP13	1	1	1		1		1	1				1	1	1	1						1	1	1	1				1	1	1	
	AP14			1																			1									
	Total																															
Entertainment	PC		1	1											1	1						1	1							1	1	
	TV																		1				1	1		1				1		
	AP17	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	2	2
	AP18		1																								1					
	Other		1	1								1					1						1	1								1
	Total																															
Heating	AP20	2	3	3	3	2	2	2	2	1	1	2	2	3	3	3	3	2	2	2	2	3	3	3	2	2	2	2	2	3	2	
	AP21		1		1																									1		
	AP22	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	2	1	1	2	1	
	AP23		1	1	1	1	1	1	1			1	1	1	1	1	1					1	1	1		1			1	1	1	
	AP24																															
	AP25		1	1	1	1	1	1	1				1	1	1	1	1	1	1			1	1	1	1	1		1			1	1
	Total																															

Appliance in the house

AP1	Traditional incandescent bulbs		AP13	Electric/Gas water heater
AP2	Compact fluorescent lamps		AP14	others
AP3	Fluorescent/Energy saving		AP15	Desktop computer

	lamps								
AP4	Halogen lamps					AP16		Laptop computer	
AP5	Rice cooker					AP17		Cathode ray tube television	
AP6	Water dispenser					AP18		LCD	
AP7	Induction cooker					AP19		Plasma	
AP8	Microwave					AP20		A/C	
AP9	Range hood					AP21		Electric Blanket	
AP10	Electric kettle					AP22		Electric Fan	
AP11	Refrigerator					AP23		Electric Heater	
AP12	Washing machine					AP24		Floor Heating	
						Ap25		Bathroom Heat Lamp	

Appliance	Number
Lighting	356
Cooking	130
Cleaning	30
Entertainment	57
Heating	149



Energy Consumption

N/A

Thermal Comfort Perception

Indoor Comfort												
	Winter						Summer					
	IC 1	IC 2	IC 3	IC 4	IC 5	IC 6	IC 1	IC 2	IC 3	IC 4	IC 5	
H1												
H2												
H3												
H4												
H5												
H6												
H7												
H8												
H9												
H10												
H11												
H12												
H13												
H14												
H15												
H16												
H17												
H18												
H19												
H20												
H21												
H22												
H23												
H24												
H25												
H26												
H27												
H28												
H29												
H30												
												Total

Occupants' satisfaction					
Very Good (5)	Good (4)	Fair (3)	Poor (2)	Very bad (1)	
			2		
			2		
				1	
				1	
	4				
			2		
			2		
		3			
		3			
		3			
		3			
		3			
			2		
		3			
		3			
	4				
	4				
		3			
		3			
		3			
			2		
		3			
		3			
	4				
		3			
	4				
			2		
	4				
	4				
	0	7	14	7	2
		23%	47%	23%	7%

IC 1	A/C
IC 2	Electric Fan
IC 3	Electric Heater
IC 4	Floor Heating
IC 5	Natural Ventilation
IC 6	Others -wearing

Typology Three: Mid-income Urban Housing (30 households)

Demographic Characteristics

Demographic characteristics of the subject households							
	Gender	Age	Education	Job	Homeownership	Family structure	INCOME
H1	Female	47	secondary	professional	owned	4	
H2	Female	67	primary	Unemployed	owned	2	
H3	Female	55	primary	technical	rented	3	
H4	Female	60	primary	Unemployed	rented	4	
H5	Female	49	secondary	professional	rented	3	
H6	male	69	primary	Retired	owned	4	
H7	Female	50	secondary	Unemployed	owned	3	
H8	male	66	primary	Freelance	owned	3	
H9	male	55	primary	technical	owned	4	
H10	Female	49	secondary	Unemployed	owned	4	
H11	Female	62	primary	Unemployed	rented	3	
H12	Female	64	primary	Unemployed	rented	4	
H13	Female	71	primary	Retired	rented	2	
H14	Female	51	secondary	Unemployed	rented	3	
H15	Female	73	primary	Retired	rented	1	
H16	male	64	primary	technical	owned	3	
H17	Female	35	secondary	technical	owned	3	
H18	Female	60	secondary	Unemployed	rented	4	
H19	Female	55	secondary	Unemployed	rented	2	
H20	Female	59	secondary	Unemployed	rented	2	
H21	male	49	secondary	Freelance	rented	3	
H22	Female	65	primary	Freelance	rented	2	
H23	Female	63	primary	Unemployed	owned	3	
H24	Female	52	secondary	Freelance	owned	3	
H25	male	77	primary	Retired	rented	1	
H26	Female	46	secondary	technical	owned	3	
H27	Female	48	secondary	technical	owned	4	
H28	Female	74	primary	Retired	rented	3	
H29	Female	65	primary	Unemployed	owned	4	
H30	Female	61	primary	Unemployed	rented	3	

	Range	Number	Number (%)
Age	less 50 (35-49)	7	23%
	50-55	6	20%
	56-65	10	33%
	66-75	6	20%
	76-95	1	3%
Gender	Female	24	80%
	Male	6	20%
Income	Less 3000 RMB	3	10%
	Between 4000-5000 RMB	5	17%
	Between 5000-7000 RMB	8	27%
	More than 10000 RMB	7	23%
	N/A	7	23%
Ownership	Owned	14	47%
	Rented	16	53%
Education level	Primary or less	18	60%
	Secondary or more	12	40%
Profession	Freelance	4	13%
	Professional	2	7%
	technical work	6	20%
	Retired	5	17%
	Unemployed	13	43%
Family Structure	1 Members	2	7%
	2 Members	5	17%
	3 Members	14	47%
	4 Members	8	27%
	5 Members	0	0%
	6 Members	0	0%

Dweller Physical Properties

Dweller Physical Properties								Building Physical Properties				
No.	Size(m2)	Orientation	Type	Age	Bedrooms	Bedroom	Living room	Range		Number	Number (%)	
H1	80	S-N	Apartment		3	20~30	20~30					
H2	77	S-N	Apartment		3	10~20	15~20					
H3	66	S-N	Apartment		2	10~20	15~20					
H4	66	S-N	Apartment		2	10~20	15~20					
H5	60	S-N	Apartment		2	10~20	15~20					
H6	66	S-N	Apartment		2	10~20	15~20					
H7	80	S-N	Apartment		3	20~30	20~30					
H8	80	S-N	Apartment		3	20~30	20~30					
H9	105	S-N	Apartment		4	20~30	20~30					
H10	60	S-N	Apartment		2	10~20	15~20					
H11	66	S-N	Apartment		2	10~20	15~20					
H12	66	S-N	Apartment		2	10~20	15~20					
H13	60	S-N	Apartment		2	10~20	15~20					
H14	74	S-N	Apartment		3	10~20	15~20					
H15	45	S-N	Apartment		1	10-	15					
H16	60	S-N	Apartment		2	10~20	15~20					
H17	66	S-N	Apartment		2	20~30	20~30					
H18	94	S-N	Apartment		3	20~30	20~30					
H19	54	S-N	Apartment		2	10-	15					
H20	54	S-N	Apartment		2	10-	15					
H21	60	S-N	Apartment		2	10~20	15~20					
H22	74	S-N	Apartment		3	10~20	15~20					
H23	60	S-N	Apartment		2	10~20	15~20					
H24	74	S-N	Apartment		3	10~20	15~20					
H25	45	S-N	Apartment		1	10-	15					
H26	74	S-N	Apartment		3	10-	15					
H27	94	S-N	Apartment		3	20~30	20~30					
H28	74	S-N	Apartment		3	10~20	15~20					
H29	77	S-N	Apartment		3	10~20	15~20					
H30	74	S-N	Apartment		3	10~20	15~20					
								Building Age		2007	30	100%
								Building Height (5 stories Bld)		1-3 stories	0	0%
										4-8 stories	0	0%
										9+ stories	30	100%
								Building Orientation		S-N	30	100%
								Building Layout		Apartment	30	100%
								Deweller Size		45-55 m ²	4	13%
										55-65 m ²	6	20%
										65-75 m ²	12	40%
										75-85 m ²	5	17%
										85-95 m ²	2	7%
										95-105m ²	1	3%
										105 +	0	0%
								Dweller room number		1	2	7%
										2	14	47%
										3	13	43%
										4	1	3%
								Building Material		Steel-concrete	30	100%
								Window layout		Single glazed metal frame	30	100%

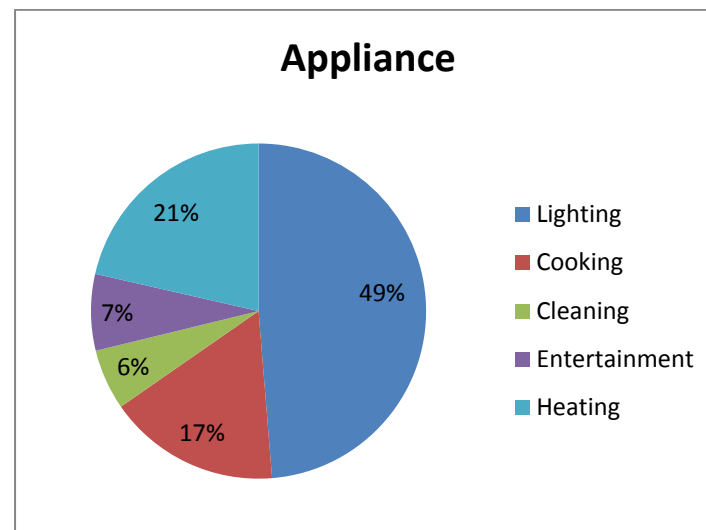
Household Appliances

		Household Appliance																															
		H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	H15	H16	H17	H18	H19	H20	H21	H22	H23	H24	H25	H26	H27	H28	H29	H30		
Function	Appliance																																
Lightning	AP1				1	1										1	1		1	1	2			1	1	2						1	416
	AP2		2	1								1	1	1									1								1		
	AP3	16	12	12	12	15	12	16	15	16	14	11	14	12	14	12	12	14	13	12	12	13	12	14	14	12	11	15	12	12	11		
	AP4									1												1							1				
	Other																																
	Total																																
Cooking	AP5	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	142	
	AP6	1						1	1	1																		1					
	AP7				1			1	1	1																		1					
	AP8	1		1			1	1	1	1		1	1				1		1						1			1	1	1	1		
	AP9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	AP10	1	1			1	1	1	1	1	1			1	1			1	1				1		1	1		1	1	1			
	AP11	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	2	1	1	1		
	Other	1								1																	1	1					
	Total																																
Cleaning	AP12	1	1	1				1	1	1	1								1	1					1			1	1	1		50	
	AP13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	AP 14	1						1	1	1	1													1				1					
	Total																																
Entertainment	PC	AP15	1					1	1	1	1													1			1	1				63	
		AP16	1	1			1	1	1	1			1					1					1	1				1	1				
	TV	AP17	2	1	1	1	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1		
		AP18	1						1		1	1																	1				
		AP19						2		1	1																						
	Other																																
	Total																																
Heating	AP20	4	3	3	3	2	2	3	3	4	3	3	3	3	3	3	2	3	3	2	2	3	4	4	3	2	3	4	2	3	4	183	
	AP21	1		1		1		1	1	1												1				1		1					
	AP22	2	2	2	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1		
	AP23				1	1	1			1	1	1	1	1		1					1	1			1	1	1		1		1		
	AP24																																
	AP25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	Total																																

Appliance in the house

AP1	Traditional incandescent bulbs				AP13	Electric/Gas water heater			
AP2	Compact fluorescent lamps				AP14	others			
AP3	Flurescent/Energy saving lamps				AP15	Desktop computer			
AP4	Halogen lamps				AP16	Laptop computer			
AP5	Rice cooker				AP17	Cathode ray tube television			
AP6	Water dispenser				AP18	LCD			
AP7	Induction cooker				AP19	Plasma			
AP8	Microwave				AP20	A/C			
AP9	Range hood				AP21	Electric Blanket			
AP10	Electric kettle				AP22	Electric Fan			
AP11	Refrigerator				AP23	Electric Heater			
AP12	Washing machine				AP24	Floor Heating			
					Ap25	Bathroom Heat Lamp			

Appliance	Number
Lighting	416
Cooking	142
Cleaning	50
Entertainment	63
Heating	183



Energy Consumption

N/A

Thermal Comfort Perception

Indoor Comfort												
	Winter						Summer					
	IC 1	IC 2	IC 3	IC 4	IC 5	IC 6	IC 1	IC 2	IC 3	IC 4	IC 5	
H1												
H2												
H3												
H4												
H5												
H6												
H7												
H8												
H9												
H10												
H11												
H12												
H13												
H14												
H15												
H16												
H17												
H18												
H19												
H20												
H21												
H22												
H23												
H24												
H25												
H26												
H27												
H28												
H29												
H30												
												Total

Occupants' satisfaction					
Very Good (5)	Good (4)	Fair (3)	Poor (2)	Very bad (1)	
	4				
	4				
		3			
		3			
			2		
	4				
		3			
		3			
5			2		
				1	
				1	
		3			
		3			
		3			
				1	
			2		
	4				
	4				
	4				
		3			
		3			
			2		
			2		
	4				
		3			
			2		
			2		
	4				
		3			
			2		
	1	8	11	8	3
	3%	27%	37%	27%	10%

IC 1	A/C
IC 2	Electric Fan
IC 3	Electric Heater
IC 4	Floor Heating
IC 5	Natural Ventilation
IC 6	Others -wearing